**Enhancing partnership among Africa RISING and NAFAKA Projects for fast-tracking delivery and scaling of agricultural technologies in Tanzania–Phase 2**

**Concept Note**

submitted to

**The USAID Mission in Tanzania**

**for supplementary financing to Africa RISING to implement strategic scientific support to NAFAKA Project**

by

**International Institute of Tropical Agriculture (IITA)**

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**Background**

Almost 80% of the population in Tanzania is rural based and dependent on subsistence agriculture for their livelihoods (Abass et al., 2014). Between 1992 and 2013, although poverty levels in the country declined from 72% to 44%, the prevalence of undernourishment increased from 24% to 35% (FAO, IFAD and WFP, 2015). The Global Hunger Index (GHI) ranks Tanzania in the category of ‘serious’ hunger, with a score of 28.4 (IFPRI, 2017). Production levels of key crops such as maize, rice and beans are low and below their potential - 1.3tha-1, 2.8tha-1, and 0.92tha-1, respectively (FAOSTAT, 2015). Climate change and weather variability characterised by, among others, changes in rain patterns; increased variability both in temperature and rain patterns; changes in water availability; soil salinization and perturbations in ecosystems (Thornton and Cramer, 2012) are reported to have further stressed crop production levels by 30% on average. In addition, post-harvest losses, especially of grains, are a major problem with losses of over 40% reported (Abass et al., 2014).

Since October 2014, with support from the USAID Mission/Tanzania, the Africa RISING East and Southern Africa project and the NAFAKA project have been working in partnership to enhance scaling of agricultural productivity innovations in Tanzania. The focus of the partnership has been on the introduction of improved crop varieties (maize/legumes, rice and vegetables), promotion of good agricultural practices (GAPs), natural resource management, improved household nutrition, reduction of food wastage and spoilage, and community capacity building. The target up to September 2017 for the Africa RISING-NAFAKA partnership is to jointly reach 47,000 households and have about 60,000 hectares under improved technologies.

By the end of 2016, about 13,000 hectares of land were under improved technologies and 10,400 farmers were using the technologies, achievements that are within the project targets for year 2 of the current 3-year project. Yields of key crops in the target regions have increased from 0.5tha-1 for maize and 1.4tha-1 for rice at baseline (in 2011 when NAFAKA and Africa RISING were separately launched) to 1.5tha-1 for maize and 3.3tha-1 for rice in 2016 (ACDI/VOCA, 2016). However, these yield achievements are still below the potential of at least 6tha-1 for improved maize and 8tha-1 for improved rice varieties generated by the institutions that form the Africa RISING consortium. The current project phase will end in September 2017. Both Africa RISING and NAFAKA emphasize the need for continued partnership for effective and efficient realisation of agricultural productivity gains across the maize, legumes, vegetables and rice value chains via continued scaling. We thus seek support for extending our joint activities of taking innovative interventions to more households as indicated in the next section.

**Strategic interventions for scaling as part of the collaboration**

Despite the first Africa RISING-NAFAKA collaboration/phase being on track to meet the targets of reaching 47,000 smallholder farm households and having 60,000 hectares under improved technologies, more still needs to be done to reach more farmers (scaling out and up) for significant impact at scale. Many farmers in Tanzania still lack access to agricultural technologies that would contribute to increases in productivity, food security, and incomes. The first phase of Africa RISING (2012-2016) generated, refined, and validated suitable agricultural technologies. These include cereal crop varieties suitable for different agro-ecologies, climate-smart agronomic, soil and water management technologies, and food safety and post-harvest management technologies. These technologies would go to scale with ease through continued collaboration with the NAFAKA project whose main focus now is on developing a vibrant marketing system for cereals through (i) strengthening input supply systems, (ii) producer marketing capacity strengthening, and (iii) milling and processing improvement. The success of this new NAFAKA engagement depends on availability of grain for sale. Thus, continued collaboration, whereby Africa RISING focuses on increased agricultural production and food safety/post-harvest management for quality will support the activities of the NAFAKA project. Conversely, improved marketing by NAFAKA will drive the adoption of technologies availed by Africa RISING for improved production.

The following four areas will benefit from a continuation of the partnership between the two projects.

1. **Climate smart agriculture (CSA) innovations**: Dimensions of climate change such as frequent extreme weather events with higher temperatures, extended drought periods and unpredictable rainfall patterns pose critical challenges to livelihoods of smallholder farmers in Tanzania. To this end, the NAFAKA project has developed a CSA strategy with one of the strategic objectives (SO3) being “*Sustainably increase resilience of people, places and livelihoods through the adoption of diverse cost-conscious CSA practices, thereby enhancing agricultural productivity and incomes.”*The Africa RISING collaboration will contribute to realisation of SO3 via joint promotion of early maturing, high yielding and drought tolerant crop varieties (salt tolerant in the case of rice), soil and water management practices, Integrated Soil Fertility Management (ISFM), and Integrated Pest Management (IPM).

Improved crops that will be promoted include early maturing and drought tolerant QPM maize varieties (e.g. CZH132019Q and CZH132003Q), 4 rice varieties that are drought tolerant, high yielding and/or salt tolerant (TXD 306, Komboka, SATO 1 and 6), 4 bean, 2 groundnut, and 2 soybean varieties. Soil and water management are critical for enhancing productivity without stressing the natural resource base. Africa RISING has developed integrated soil fertility management (ISFM) innovations that combine use of organic inputs (crop residues and green manure) with fertilizers to address or prevent soil nutrient deficiencies. Our research has proven that ISFM ensures relatively lower use of fertilizers and sustains vital ecosystem functions such as hydrological and nutrient cycles. Innovations on management of nitrogen through integration of nitrogen fixing crops and green manures in cereal-legume rotations and intercropping have also been developed and will further be promoted. Soil and water conservation through alternate tied-ridging (in semi-arid locations), reduced tillage, bunds (fanya juu/fanya chini) as well as alternate wet and dry rice production will continue to be disseminated to farmers. Through our research and scaling efforts, we will continue training farmers and extension staff on how to manage biotic stresses by pests, diseases and weeds through a combination of cultural, chemical, and bio-physical means.

During the first phase of the collaboration, the Africa RISING team has been a reliable actor in the establishment of demonstration sites for improved crops, good agronomic practices and natural resource management (during 2016, 630 (65%) of the about 900 demonstration sites established for NAFAKA project activities, were set up by Africa RISING). Due to the success of training many smallholder farmers at the demonstration sites by the Africa RISING team, this activity will be one of the key components of the Africa RISING-NAFAKA collaboration under this intervention. Besides providing CSA training for smallholder farmers, the demos will stimulate access to inputs. The NAFAKA project plans to rely on the Africa RISING collaboration to focus more on establishment of demonstration sites as learning centres for capacity building for agro-input dealers, lead farmers, extension staff and VBAAs as they (NAFAKA) emphasize on marketing, credit, and crop insurance.

1. **Reduced food waste and spoilage:** According to FAO (2013), food loss and waste in developing countries occurs because of the way food is produced, handled after harvest, stored, preserved and processed. During the first phase of the partnership project, activities geared towards mechanical threshing, shelling, drying, and storage are being promoted focusing on maize. These will continue, further expanding to legumes and rice.
2. **Improved household nutrition and resilience**: We propose to further diversify the household food base through introduction and scaling of Quality Declared Seed (QDS) innovations for legume crops (soybean, groundnuts and beans). This arrangement is also in agreement with the NAFAKA project focus – the project changed emphasis from vegetables to legumes as a means of improving household nutrition. Legumes have the potential of contributing additional income for households, soil fertility management and enhancing household-level nutrition outcomes.
3. **Capacity building for better scaling**: One of the themes of the NAFAKA project is capacity building of producers in marketing. However, some gaps exist which the Africa RISING-NAFAKA partnership will address. The suggested focus will be on capacity building for extension staff and agronomists from the public (emphasis on district level) and private sectors, village-based agricultural advisors and lead farmers, and youth. We propose that this component is complementarily implemented (or in some cases led) by Africa RISING. The capacity building activities will focus on three themes:
4. *Behavioural Change Communication (BCC):* During the first project phase, documentation of technology briefs and manuals is being finalized by the Africa RISING team incorporating the field experiences of the NAFAKA implementers. These materials will be used in the second phase to provide information for extension organizations. The materials will be distributed to extension staff, farmers’ associations, VBAAs, and lead farmers for use in their routine activities by the end of the current project phase, as a pre-test activity. At the beginning of the second phase of the project, the materials will be reviewed and refined basing on feedback from the users. To further strengthen BCC activities, communication staff from both Africa RISING and NAFAKA will work jointly to develop and operationalize a BCC strategy that will go beyond the materials developed in the first project phase.
5. *Collaborative Learning and Adaptation (CLA):* Being a research project, Africa RISING has a lot to offer regarding CLA which is a key component of USAID programming. Presently, we are using GIS analysis to identify sustainable recommendation domains for better targeted scaling. This activity will be further strengthened in the second phase of the project, including use of geospatial outputs generated to inform policy makers/donors for decision making. In addition, Research-in-Development activities focusing on a wide range of challenges (social, economic, agronomic, and environmental) identified during field implementation will be conducted. The results will be documented and shared on various forums such as the Iringa learning hub, scholarly journals and other relevant stakeholder meetings. As part of the CLA activities, we also plan to operationalize activities aimed at *measuring spill-overs* arising from scaling activities.
6. *Training*: Our experience of working with extension staff, VBAAs, and lead farmers over the past three years indicates that their capacities need to be enhanced in (i) good agricultural practices, (ii) product knowledge (seeds, safe use of fertilizers, pesticides and farm implements), and (iii) use of ICTs for improved service provision. Training of these groups will be jointly implemented by Africa RISING and NAFAKA after a needs assessment for the different actor categories to exactly meet their needs for better scaling. As part of promoting mechanization for post-harvest management, youth and VBAAs (at least 50% female) will be deliberately selected and trained as both, artisans and community service providers. These training activities were launched (on a limited scale) in the second and third year of the first project phase with promising results. IITA, the lead institution for Africa RISING in Tanzania, also has proven experiences of mentoring youth agripreneurs in many countries, including Tanzania. The Africa RISING-NAFAKA project has also been successfully piloting capacity building and involvement of the youth in Mvomero and Mbozi districts. These experiences (IITA youth agripreneurs and Mvomero/Mbozi youth models) will be brought into the collaboration to facilitate youth involvement in agricultural productivity enhancement in the NAFAKA project locations.

**Geographical focus, activities and beneficiaries**

The Africa RISING-NAFAKA collaboration will focus on three regions: Songwe, Mbeya and Iringa where the NAFAKA project is currently operational, covering the districts of Mbozi, Momba, Mbarali, Mufindi, Kilolo and Iringa rural. The current Africa RISING-NAFAKA collaboration is operational in all these districts, except Mufindi and Momba.

For each of the four strategic focus intervention areas, specific activities will be implemented. Table 2 provides a timeline for the planned activities.

*Activity 1: Promotion of climate smart agriculture innovations*

This intervention will involve establishment of demonstration sites for the three crop enterprises (maize, rice, legumes) and training farmers, VBAAs, and extension staff. To ensure farmers’ access to agro-inputs, the project will engage with agro-input companies to work directly with the rural agro-dealer network established by NAFAKA. We are already experiencing successful cases of enhanced farmers’ agro-input access through linkages between the rural agro-dealer network (VBAAs and farmers’ organizations) and companies involved in the current Africa RISING-NAFAKA collaboration, such as Meru Agro Seed Company. In 2016/17 the company sold over 300MT of maize seed in Kongwa District by working with VBAAs whose capacities were jointly developed by NAFAKA and Africa RISING. Beyond demonstration sites as learning sites, we will conduct field days, and Business-to-Business (B2B) meetings. B2B meetings is an experience from the NAFAKA project whereby agro-input and other service providers meet with project beneficiaries to establish working relationships to facilitate access to inputs, credit, markets and other services.

*Activity 2: Reduction of food waste and spoilage*

Efforts from the first project phase to promote technologies that reduce food waste and spoilage have led to increased awareness, and beneficiaries asking for services that would potentially address the problem. Regarding technologies that were promoted during the first project phase, the focus will be on supporting marketing efforts via the rural agro-dealer networks. For new project locations, activities aimed at raising awareness for actors (farmers, VBAAs, producer organizations, policy makers) will be implemented in addition to the promotion efforts. Major means of technology promotion will include B2B meetings and capacity building for VBAAs, agro-dealers, and producer organizations – VBAAs and agro-dealers will be the main agents of promotion of the technologies.

*Activity 3: Improving household nutrition and resilience*

Since this intervention area will focus legumes the main activities will include promotion of QDS seed production and building a vibrant QDS farmers’ association in each district where legumes are produced. This will enhance QDS producers’ access to markets (one private sector actor, G2L, has already expressed interest in working with QDS producers supported by the project) and other services such as credit, and engagement with district seed inspectors.

*Activity 4: Capacity building for better scaling and sustainability*

Capacity building is central to success of the other three intervention areas. Thus, key activities that will be implemented include training needs assessment for VBAAs, local artisans, lead farmers, youth (basing on the AR-NAFAKA Mvomero/Mbozi model), and government extension staff, refinement of training materials relevant for use by the beneficiaries, training of each category of target beneficiaries, development and distribution of BCC materials, integration of ICTs in service delivery, and conducting R-in-D activities and sharing results with actors in policy and practice.

**Monitoring, evaluation and reporting**

A project PMP will be developed, building on what was developed from the first project phase and based on the USAID guidelines on indicators and reporting. The PMP will guide data collection, analysis and reporting activities for the project. The first project phase experienced a challenge of possible double reporting of indicators, which was resolved by indicating separately in the reports, achievements that were realised jointly (by Africa RISING and NAFAKA) and those only realised by Africa RISING. This challenge will be further addressed through consultations with stakeholders at the time of inception of the second project phase.

*FtF indicators*: This project will contribute to five indicators shown in table 1 below1.

**Table 1: Indicator targets for Africa RISING-NAFAKA phase 2**

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| Indicator | Targets |
| ***Output Indicators*** | |
| EG.3-1: (4.5.2-13) Number of households benefiting directly from USG interventions (RAA) | 54,000 |
| EG.3.2-1: (4.5.2-7) Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training (RAA) (WOG) | 62,500 |
| EG.3.2-4: (4.5.2-11) Number of for-profit private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG food security related organizational development assistance (RAA) (WOG) | 250 |
| ***Outcome indicators*** | |
| EG.3.2-17: (4.5.2-5) Number of farmers and others who have applied improved technologies or management practices with USG assistance (RAA) (WOG) | 38,000 |
| EG.3.2-18: (4.5.2-2) Number of hectares of land under improved technologies or management practices with USG assistance (RAA) (WOG) | 56,000 |

Notes:

1. On average, we will work in 30 villages in each district (20 in year 1 and then 30 in years 2 and 3), targeting 300 households in each of the six districts.
2. From our experience of Africa RISING and NAFAKA project outcome surveys, at least 70% of households adopt at least one of the promoted technologies, in about 1.5ha of land.

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| **Table 2. Africa RISING-NAFAKA Indicative Year 1 and Life of Project (LOP) Workplan** | | | | | | | | | | | | | | | | |  | | |
|  | **Responsible Entity** | | **Activity Year 1** | | | | | | | | **Y2** | | **Y3** | | **Y4** | | |
| **2017** | | **2018** | | | | | |
| *Crosscutting activities* |  | | **Q1**  **Oct-**  **Dec** | | **Q2**  **Jan-**  **Mar** | | **Q3 Apr-**  **Jun** | | **Q4 Jul-**  **Sep** | |  | |  | |  | | |
| 1. Finalization of individual workplans and budgets |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Development of PMP/M&E plans |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Project inception meetings (project and team levels) |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Development of a behavioural change/communication strategy |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Baseline data collection |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Annual outcome surveys |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Annual project review meetings |  | |  | |  | |  | |  | |  | |  | |  | | |
| **Intervention 1: Introduction of climate smart agricultural innovations** |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Feedback meetings with farmers and district staff |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Meetings with input suppliers and linking them with producer organizations and VBAAs |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Procurement and distribution of agro-inputs |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Selection of demonstration sites |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Training of extension staff and lead farmers |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Establishment of demonstration and learning sites |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Farmer training activities (including field days, B2B meetings and other activities) |  | |  | |  | |  | |  | |  | |  | |  | | |
| **Intervention 2: Reduction of food waste and spoilage** |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Meetings with partners (district staff, private sector) |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. B2B meetings with VBAAs, producer organizations and input suppliers |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Demonstration activities for postharvest management |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Training activities for farmers and farmer leaders |  | |  | |  | |  | |  | |  | |  | |  | | |
| **Intervention 3: Improving household nutrition and resilience** | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Meetings with district staff, private sector actors | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Procurement and distribution of agro-inputs | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Selection of demonstration sites | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Training of extension staff and lead farmers | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Establishment of demonstration and learning sites | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Identification and training of QDS producers | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. QDS production activities | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Farmer training activities (including field days, B2B meetings and other activities) | |  | |  | |  | |  | |  | |  | |  | |  | | |
| **Intervention 4: Capacity building for better scaling** | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Training needs assessments (extension staff, youth, VBAAs, POs) | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Development of training plans | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Finalization of training materials | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Training of beneficiaries | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Support to trainees to support farmers in production activities | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Formation and strengthening of QDS farmers’ associations (district level) | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Facilitating meetings between QDS associations and service providers(e.g. seed inspectors, buyers) and policy makers at district levels | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Collection of data on emerging CLA issues and development of communication products | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Stakeholder meetings on results related to CLA studies | |  | |  | |  | |  | |  | |  | |  | |  | | |
| 1. Integration of ICTs in project activities | |  | |  | |  | |  | |  | |  | |  | |  | | |

**References**

Abass, B.A., Ndunguru, G., Mamiro, P., Alenkhe, B., Mlingi, N. and Bekunda, M. (2014). Post-harvest food losses in a maize-based farming system of semi-arid savannah area of Tanzania. *Journal of Stored Products Research*, 57: 49-57.

ACDI/VOCA (2014). *NAFAKA staple value chains activity: End of Project report (2011-16).* Washington DC: ACDI/VOCA.

FAO (2013). *Climate-smart agriculture: Sourcebook*. Rome: FAO

FAO, IFAD and WFP. (2015). *The state of food insecurity in the World 2015. Meeting the 2015 international hunger targets: Taking stock of uneven progress.* Rome: FAO.

FAOSTAT (2015). *FAO Statistical data: Tanzania*. <http://faostat3.fao.org/download/Q/QC/E>

IFPRI (2017). *Global Hunger Index*. <http://ghi.ifpri.org/>. International Food Policy Research Institute.

Thornton, P. and Cramer, L., eds. (2012). Impacts of climate change on the agricultural and aquatic systems and natural resources within the CGIAR’s mandate. *CCAFS Working Paper No. 23*. Copenhagen: CCAFS.